MONTANA [AND GAME COMMISSION



BIENNIAL REPORT

MAY I, 1962 - APRIL 30, 1964 MONTANA STATE LIBRAK B 930 E et Lyndale Avenue Helena, Montana 59601



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The Honorable Tim Babcock Governor of Montana Helena, Montana

Dear Governor Babcock:

It is our pleasure to submit the biennial report of the Montana Fish and Game Commission for the period of May 1, 1952 through April 30, 1964.

This report enumerates income and expenditures for the past biennium.

We are presenting a brief account of department activities and have noted some of the problems that modern fish and game management must face and how these problems are being met.

Legislative measures that we feel are desirable for the management of Montana's fish and game resources have been included.

Respectfully submitted,

Walter E. Staves
Chairman, Montana Fish and
Game Commission
John T. Hanson, Vice Chairman
E. G. Leipheimer, Member
Lyle H. Tauck, Member
Robert H. Weintz, Member



The space age has its merits and its excitement, with ever greater probes into new horizons and travel to distant planets just out of grasp. But while we dream of alien galaxies, we are still earth bound, and so it is our own planet and our own state that requires immediate attention and energies.

As the population of the United States continues to pile up, features of the landscape are moulded into cities, roads, airstrips, and the myriads of other artificialities civilization requires. Simultanecusly, there is a growing thirst to visit for awhile more natural and primitive settings, to catch a fish, and breathe fresh pine-scented air, free from the smell of industry and the by-products of crowded living.

It is our good fortune that the Northwest, and more specifically Montana, remains the natural storehouse of elbow room, scenic beauty, and wildlife. It may soon, in fact, become the playground of this busy nation if only the things that people are looking for can be maintained.

The Montana Fish and Game Department's management programs are designed to provide as much hunting and fishing as is compatible with land and water uses. They are geared to offer recreation to today's hunter and to insure sustained crops of fish and wildlife for generations to come. This is often an uphill course, and not without adversity. With the continued support of Montana sportsmen, cooperation of other agencies, and enlightened legislation as has been enacted in the past, our goals will be realized.

Frank H. Dunkle, Director Montana Fish and Game Department

ADMINISTRATION

The Montana Fish and Game Department has realigned its administrative structure for more efficiency. A district supervisory system is now in effect. For convenience, the state has been sub-divided into seven districts with head-quarters in Kalispell (District 1); Missoula (District 2); Bozeman (District 3); Great Falls (District 4); Billings (District 5); Glasgow (District 6), and Miles City (District 7).

Each supervisor has day to day supervision of all persons assigned to his district and is responsible solely to the Department Director or, in his absence, the Deputy Director. Previously, there was no single authority in a district. A

staff made joint decisions on the district level as well as joint recommendations to the director.

Division chiefs compose the director's staff. With realignment, there has also been a change in the function of this staff. It will plan, coordinate, and budget for various activities of the department under direct supervision of the director. District supervisory personnel will see that programs planned by the staff and approved by the director are carried out.

A new Division, Recreation and Lands Development, was necessitated by a growing need for planned access to hunting, fishing and other recreation areas.

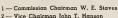










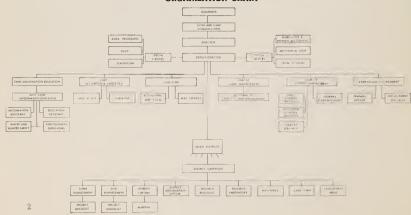


- 3 Commission Member E. G. Leipheimer, Jr. 4 — Commission Member Lyle H. Tauck
- 5 Commission Member Robert H. Weintz
- 6 Department Director Frank H. Dunkle 7 — Deputy Director Keith A. Freseman





ORGANIZATION CHART



RECOMMENDED LEGISLATION

Stream Conservation Law

The Stream Conservation Law passed in 1963 will expire June 30, 1965 unless action is taken to insure its perpetuation. This important legislation provides a measure of legal consideration for trout streams and a means of resolving inter-agency differences that may result from overlapping responsibilities.

The Fish and Game Commission is abligated to perpetuate a stream fishery. In order to provide sport fish, it follows that the necessities for fish growth and reproduction must first be present. High on the list of necessities are certain physical qualities of natural stream channels—such things as bank cover, undercut banks, proper distribution of pools and riffles, and the associated bends or meanders. Conversely, construction and hydraulic projects often change or deteriorate streams so they will no longer support or rear sport fish. This presents a sharp conflict of interests and an obvious overlap of responsibilities.

The Stream Conservation Law set up to take care of such problems provides first that preliminary plans for projects that may affect fishing streams must be submitted to the Fish and
Game Commission prior to the beginning of
construction. The Commission then reviews the
plans and advises the applicant as to whether
or not the project will adversely affect the fisheries potential of the stream. Alternatives may
also be recommended.

In the event there is an impasse between agencies in reaching mutual agreement, the problem may be turned over to a board of arbitration. The board, composed of a member from each agency and a third person mutually agreed upon by both agencies, hears testimony and renders a binding decision.

Under the regulatory influence of the Stream Conservation Law, inter-agency problems have been resolved without arbitration. From July 1, 1963 through May 31, 1964, the Fish and Game Department has received 34 notices of construction projects affecting fishing streams, three from cities or counties and 31 from the Montana Highway Department.

Two of the city-county projects were judged non-detrimental. The third was detrimental, but



Physical requirements of fish are destroyed in manhandling of streams.

fish and game recommendations to alleviate stream damage were followed.

One of the 31 notices received from the Highway Department is in the process of evaluation at time of this writing, June 5, 1964. Of the other 30, the Department has recommended changes in 8 and no change in 22. Our reasons for not recommending changes in these 22 projects were either: (1) the project caused minor damage to good fishing streams; (2) no reasonable alternative could be suggested; or (3) because the project affected streams of minor importance. Seven of the 22 projects fell into the first category.

Agreements were reached on five of the eight projects judged "detrimental". On one of these projects two bridges will be installed to save a long meander and boulders will be placed in a length of reworked channel; on three projects loss will be reduced by adding structures and improving access; and on the remaining project the road alignment will be changed to reduce encroachment.

The Fish and Game Commission has recommended line changes to reduce or eliminate encroachment for all three of the projects on which no agreement has been reached. No decision can be reached on two of these projects until the route of the railroad relocation, necessitated



As use of recreational areas increases, problems of sanitation, safety, and protection of public property become more acute,

by highway construction, has been determined. No mutually agreeable solution to the remaining project has been reached. The matter can be resolved quickly by arbitration if the constructing agency notifies the Fish and Game Commission that it refuses to modify its plans as provided for under sections of the Stream Conservation Law.

This law has not been a roadblock to stream-side construction—73 percent of the projects submitted have been approved without change. This law does help us save our dwindling stream habitat—changes or mitigative measures have been negotiated on 18 percent of the projects submitted. This law is workable—only 9 percent of the projects submitted were being held up as of June 1, 1964, and these can be resolved any time the constructing agency desires by using the arbitration which is provided for in the law.

The Fish and Game Commission feels that the Stream Conservation Law is a fair and workable instrument and recommends that it be given permanent status.

Authority to Regulate Use of Fish and Game Lands

With the ever-growing influx of recreationists seeking places to camp, hunt, fish, picnic or otherwise use fish and game lands, there is a problem developing in controlling use of the areas. As it now exists, the Fish and Game De partment does not have legal authority to set standards for safety or sanitation, or to direct routes of traffic.

There is a pressing need for the commission to have regulatory powers that would afford proper control and coordination of various land uses. Such rules would be drafted and enforced in the interest of public health, public safety, and protection of public property.

Standardize Fish Nomenclature— Include Paddlefish As Game Fish

The latest nomenclature adopted by the American Fisheries Society in 1962 incorporates all species of the family Thymallidae (grayling) and all species of the family Coregonidae (whitefish) into the family Salmonidae (chars, trout and salmon). In the interest of standardizing the names on a national basis, the commission recommends that this change of nomenclature be adopted.



During the past few years, the popular sport of "paddlefishing" has been rediscovered, especially on the Yellowstone River.

The paddlefish does not enjoy any measure of protection under its present status. The Montana Fish and Game Commission recommends that all species of the genus Polyodon (paddlefish) be included as game fish so that the commission can legally establish limits commensurate to managing this sports fishery.

Authority to Issue Special \$20.00 Deer and Antelope Licenses

Since 1955 the Legislature has granted authority to the Fish and Game Commission to issue \$20.00 non-resident antelope licenses. The expiration date of present authorization is December 31, 1964.

The issuing of twenty-dollar deer and antelope licenses has been a necessary means of managing animals in high concentration areas where resident hunting pressure is so light as to not adequately harvest the herds. Without this authority, deer and antelope in some of the eastern Montana areas cannot be properly harvested by residents and the severe use of natural forage would become a serious problem. Excessive use of forage and crops on private lands can become a problem to land-owners.

The commission recommends that authority be given for the continued issuance of twentydollar deer and antelope licenses.

Marten

An amendment to Section 26-321, Revised Codes of Montana, is proposed which would give the Fish and Game Commission authority to manage marten as they do other furbearers.

The proposed amendment would place marten in the same category as other Montana furbearers (exception beaver). It would eliminate all of the special detailed requirements of tagging, transporting and reporting which are presently required. The commission feels that present restrictions have outlived their usefulness, and besides imposing an unnecessary burden upon trappers makes it difficult for the Fish and Game Department to establish a sound long-range management program for this native furbearer.

Place Beaver Under Commission Regulations

Years ago when beaver were at a premium and there were no synthetic products to take the place of furs, trappers depleted beaver numbers over much of the northwest. In Montana, certain laws were enacted to aid in a program to bring heaver back to abundance.

For many years now, beaver have become reestablished statewide and have actually become a nuisance in many instances. Beaver no longer need the additional protection afforded under some of the earlier laws. In fact, administration of the required complex permit system and payment of tagging fees by trappers imposes unnecessary work and expense for both the Fish and Game Department and trappers. Permits and the payment of tagging fees by trappers makes proper beaver management difficult in most areas of the state and impossible in eastern Montana.

Repeal of Section 26-401, Revised Codes of Montana, would place the authority to manage beaver with the Montana Fish and Game Commission in the same status as other furbearers. It would eliminate complex administrative procedures and allow for more practical management.

Residency More Clearly Defined

One of the most frequent violations of fish and game laws is that of nonresidents purchasing resident hunting and fishing licenses. An amendment is proposed to Section 26-217, Revised Codes of Montana, so that there will be more clear definition of who may purchase resident hunting and fishing licenses. This would be a big aid in promoting uniform enforcement throughout the state.

Penalty for False Statement to Procure Licenses

The commission recommends that the penalty for illegal purchase of resident licenses by aliens and non-residents be set at not less than \$100.00 An increase in the penalty would help to minimize false statements of residency in order to buy resident hunting and fishing licenses.



Information and eductaion personnel assist in a number of field activities. This is part of a field trip group inspecting deer winter range.

INFORMATION - EDUCATION

Disseminating information pertinent to the proper management of fish and game is the principal task of the Information & Education Division. Whether the problem is the maintenance of a deer herd or the perpetuation of the state's nationally-known stream fishing, one item is continually stressed—the importance of preserving the habitat which satisfies the living requirements of wild animals. This recurrent theme—the dependence of animals upon their environment-is becoming a familiar one to Montanans. It is basic to understanding the need for a variety of management programs varying from liberalized deer regulations to specific pieces of legislation such as the Stream Preservation Act.

Many avenues of communication are employed to satisfy the division's responsibilities.

News Services

News media, including newspapers, radio stations, and television stations, are the most

important outlets for wide dissemination of fish and game information, especially when the information is of immediate interest. As special news items arise, such as opening or closing of seasons, they are immediatley given to the wire services and to newspapers in the areas affected. Additional news bulletins are prepared as the need arises to keep license agents up to date on regulations. Newspaper features and magazines are further outlets for fish and game information.

Mail Inquiries

A lot of fish and game communications will always depend upon direct mail in answer to inquiries and requests. Because of the many thousand pieces of such mail each year, special bulletins and re-print materials have been prepared which satisfy most inquiries. Special requests and inquiries that require unusual information must be given individual attention.

District Representatives

Information officers are presently assigned to five of the seven fish and game administrative districts. These are Great Falls, Billings, Kalispell, Bozeman and Missoula. These men are able to give more time to and become better acquainted with local situations than they would were they located in Helena. The department is thus able to better serve sportsmen on the local level while still doing so in a coordinated manner.

Assistance is given to other divisions in many ways. Talks illustrated with 35 mm slide series are presented to sportsmen, civic, and other organized groups. Slide series with scripts are made available to other personnel. Assistance is given also in various phases of field activities, such as aid in organizing and conducting field trips for the benefit of sportsmen.

All District Information Officers have firm biological backgrounds. Their work has proven an invaluable part of the overall I & E Program.

Movies and Photography

Next to actually being on the scene, no other media is as appealing or as effective as a good sound-movie. In fact, movies often have advantage over actual experience since the observer can sit in comfort and safety while he looks at what may otherwise be a dangerous or uncomfortable situation.

The film laboratory, besides doing a considerable amount of actual photography, is charged with putting together sound-tracking and duplicating film footage taken by other I. & E. personnel. These films are made available to schools, TV stations, sportsmen, and other interested groups through the fish and game film library.

Hunter and Water Safety

The administration of this program is the responsibility of the Information & Education Division. Though central administration is done by the 1. & E. Division, the Enforcement Division has shouldered most of the field administration. Actual instruction of youngsters is given by non-department instructors. This dedicated group of volunteer instructors serve without pay

and have done an excellent job of giving regived instruction to young hunters.

On May 1, 1964 there were over 800 active hunter safety instructors. During the biennium covered by this report, 12,969 students have received certificates of competency.

The Montana Board of Equalization is now responsible for licensing boats in Montana; however, the Fish and Game Department is still charged with maintaining equipment standards and publicizing water safety and regulations.

Youth Education

As America becomes more cognizant of the value in outdoor recreation, there is a corresponding demand by schools and youth organizations for instruction in fish and game management. An Education Representative devotes most of his time toward working with these groups, with youth camps and in teacher training.

Wildlife Exhibit

The Division is also in charge of a wildlife exhibit which attends as many of the county fairs each summer as is practicable. This live-animal exhibits has always been one of the most popular features of the fairs. It gives both the youngsters and adults a chance to see first-hand many of the game and non-game animals that go to make up the natural fauna of Montana.

ADULT EDUCATION

The Fish and Game Department annually linances a program of adult education in coperation with the Montana State University at Missoula and State College at Bozeman. The program calls for a series of educational lectures on wildlife and resource management to be presented in a number of Montana towns each year. As stated in the original agreement, the purpose of this program is to "develop a better understanding of advanced management of the natural resource base to the end that a more favorable environment for wildlife species may be attained and maintained."

Besides conducting regular forums, the Wildlife Extensionists work with sportsmens groups, civic groups, schools, youth groups, and cooperate with the department in other education programs as time permits.



Game managers attempt to provide the maximum opportunity to hunt game birds and animals consistent with the welfare of the resource.

(Photo by Eldon Smith)

GAME MANAGEMENT

Wild game on all lands and waters of Montana is the property of the State and as such, belongs to all of the people of the State. The State Fish and Game Commission is charged with the responsibility of perpetuating the game resource for the people of Montana through sound game management practices.

The major objectives of the game management program in the State of Montana do not change from year to year. During the biennium, we have continued to operate under the principle that we should provide the maximum opportunity to hunt game birds and animals consistent with the welfare of the resource. The program of providing this maximum hunting opportunity is based on the information obtained from forage surveys, population surveys, harvest surveys and research.

Montana's progressive management program, which is based on factual information concerning the animals and their habitat, is providing sportsmen a maximum of recreational opportunity. Many sportsmen have participated in the recreation of hunting nine big game species. A Montana big game harvest of 162,710 animals in 1962 decreased somewhat in 1963 to 154,890 animals. The greatest contribution to the statewide harvest was deer. The harvest of this species averaged 122,514

during the past biennium compared to 126,303 deer taken during the 1960-61 biennium. A high take of more than 120,000 deer, however, is being maintained in the State. Fluctuations in harvest can be expected due to variable hunting season weather, season regulations and other factors. A five-year record of big game harvest is given for the State. Hunting success has rated generally high for each of the species involved.

The harvest of upland game birds increased during the biennium and a record high harvest of 727,749 birds of nine species was achieved in 1963. The waterfowl harvest of both ducks and geese also increased during the biennium. A five-year summary of the estimated game bird and waterfowl harvests is given to indicate trends of small game take by hunters.

The game harvest in Montana has continued at a reasonably high level. Montana still continues at an increasing rate to produce trophy heads of big game in the Boone and Crockett Club records of North America. During the biennium (1963) a typical white-tailed deer was taken in Flathead County which should rank third in the records of all North American heads of this class. A non-typical white-tailed deer was also taken in Flathead County in 1961 which should rank seventh.

MONTANA BIG GAME HARVEST—STATEWIDE

1959 - 1963

					Sh	eep	G	oat		
YEAR		Elk	Deer	Moose	Limited	Unlimited	Limited	Unlimited	Anielope	Bear
1963	No. Hunters	66,622	124,831	783	72	400	420	878	27,907	28,010
	No. Killed	11,050	119,300	587	46	36	217	296	22,238	1,121
	Percent Success	17	96	75	64	9	52	34	80	4
	Permits Issued			821	80	518	493	1,098	31,346	****
1962	No. Hunters	69,714	126,740	811	93	271	394	712	29,026	29,815
	No. Killed	12,231	125,729	612	57	23	245	236	22,937	1,407
	Percent Success	18	99	76	62	9	62	33	79	5
	Permits Issued			836	95	361	470	876	32,164	
1961	No. Hunters	61,470	125,011	610	71	187	359	494	24,337	27,723
	No. Killed	15,471	129,107	527	49	23	137	191	19,278	1,872
	Percent Success	25	103	86	69	12	53	28	79	7
	Permits Issued			630	81	302	452	654	27,103	****
1960	No. Hunters	56,320	122,486	535	69	243	330	662	18,853	25,402
	No. Killed	10,140	123,500	441	42	13	198	209	14,981	1,494
	Percent Success	18	101	82	61	5	60	32	79	6
	Permits Issued			553	74	339	410	791	20,820	
1959	No. Hunters	69,055	119,874	479	57	212	274	694	19,402	***
	No. Killed	15,271	120,295	406	41	23	137	74	15,658	
	Percent Success	22	100	85	72	11	50	11	81	
	Permits Issued			505	60	267	345	858	21,148	

¹ Determined by mail survey.

Prior records indicate a typical mule deer taken from Treasure County ranks about for-tieth in a list of more than 200 records. A non-typical mule deer came from Madison County in 1961 which should rank twelfth in the records book

Montana has three high ranking elk or wapiti heads. The Madison County bull taken in 1958 is in third place. The biennium produced two heads, ranking fifth from Mineral County and a sixth place tie taken from Carbon County.

A moose killed in Ravalli County prior to 1957 should rank sixth in the North American

Two bighorn sheep from the Sun River herd in Lewis and Clark and Teton Counties produced heads which should be a ninth place tie and a thirty-first place tie from more than 100 entries in the sheep records of North America.

More hunters go out after deer than any other of our species of big game. Deer production, and in turn the annual surplus crop available for hunting, depends on forage conditions on critical seasonal ranges. Many winter ranges of deer in Montana have poor forage conditions. These areas will require reduction of deer or maintenance of low deer populations over a period of years to allow forage regeneration and recovery.

The Montana deer management program objective is to adjust deer numbers to available forage supplies on critical seasonal range. Although reduction of deer numbers has been accomplished in some areas, the recovery of



Checking stations provide harvest information as well as important biological information.

MONTANA UPLAND GAME BIRD AND WATERFOWL HARVEST—STATEWIDE 1959 - 1963

	1959	1960	1961	1962	1963
Number Class-A Licenses (Bird and Fish) Sold	184,773	186,969	185,714	188,900	195,847
Number Upland Game Bird Hunters	70,472	71,860	59,213	74,798	86,262
Native Game Birds					
Sharp-tailed grouse	35,664	37,918	36,270	31,826	85,363
Sage hens	23,150	33,876	27,364	32,572	72,362
Ruffed grouse	32,941	44,403	72,772	85,642	60,731
Blue grouse	28,928	51,646	50,616	58,996	53,229
Spruce grouse	12,642	26,070	27,364	37,832	31,807
Exotic Game Birds					
Pheasants	174,882	157,192	169,351	190,331	309,807
Hungarian partridge	41,941	49,435	37,469	45,290	111,486
Turkeys	375	193	409	370	993
Chukar partridge	192	644	838	1,975	2,964
Unknown species	959	990	696	3,063	
Total Game Birds	351,299	402,164	432,394	487,527	727,749
Game Birds per hunter	5	6	7	7	8
Number Waterfowl Hunters	21.082	21,182	20,493	17,002	23,451
Ducks	120,167	97,225	147,165	100,147	190,429
Geese	5,908	4,276	10,433	14,675	19,613

¹ Determined by mail survey.



The objective of deer management is to adjust deer numbers to available lorage on critical seasonal range.

deer forage has not been generally satisfactory to date. The largest, healthiest and most productive deer are found where food supplies are adequate and hunter harvest keeps deer in balance with available forage.

The elk is probably the most popular big game animal in Montana. Hunters will expend considerable effort and time and expense in hunting this large deer. It is now well distributed throughout the mountainous portions of the State and even in certain parts of the Missouri River Breaks.

The elk has expanded its range during the past 20 years through growth of native herds and reproduction of transplanted elk. The species is highly adaptable in food habits and dominates deer when competition for range exists. The animal now occurs on all suitable range of the State.

Future elk seasons may have to be more restrictive in the accessible ranges where hunters tend to concentrate. Proper management of this big game animal will require herd reductions in some locations to perpetuate its forage supply. The properly managed elk herd will thrive on good range and provide continued high quality recreation. The elk management program is designed to produce maximum numbers for hunting, that are compatible to forage supplies and other land uses.

During the biennium, weather and habitat conditions have proved ideal for the production of the various species of bird life that are hunted throughout the State of Montana. Certain of the grouse species have returned to Montana in numbers that were thought at one time to be impossible to achieve. This was done in the face of providing reasonable hunting opportunity on these birds during the entire period that they were recovering from a low in their population cycle. Bird hunting is becoming an ever increasingly popular sport. The Montana Fish and Game Commission will continue to provide the maximum recreational apportunity in this field. It is felt that game bird hunting is one sport where the entire family can go into the fields as a unit.

Research is the key to future game management programs and progress toward better understanding of wildlife problems. Research results cannot be adequately summarized but reports are published and available to indicate the scope and findings of the work accomplished during the biennium.

Small game research included studies of the Merriam's turkey in Montana, sharp-tailed grouse and blue grouse ecology, and the effects of spraying on this species in the forests of western Montana. Blue grouse life history studies indicated surprising production of this species and resulted in more liberal seasons to more fully utilize the annual production of this bird, as well as other mountain grouse species.

Radiotelemetry was used to increase the effectiveness of sharp-tailed grouse population and ecologic studies in north central Montana. Land use practices, such as grazing and agriculture, have been found to greatly affect production and survival of sharptail populations.

Big game research continued on the Sun River elk herd, Gallatin elk herd, moose in southwestern Montana, deer in the Missourl Breaks and black bear in northwestern Montana.

Studies revealed the disproportionate harvest of segments of the Sun River elk herd which may contribute to the lower production found in that herd. The Gallatin elk range conditions continued to deteriorate and the need to maintain a lower elk population was confirmed.

Deer populations in the Missouri Breaks were found to fluctuate in response to critical forage conditions.

The black bear study revealed a surprisingly large bear population and low bear harvests which need to be increased in western Montana. Increased black bear harvests can be achieved by revision of present laws restricting the hunting of black bear.

The big game transplanting program has been largely restricted to the effort made by the Commission in transplanting elk from the Yellowstone National Park to the State of Montana, in cooperation with the Park elk control program. A total of 293 elk were transplanted into Montana during the winter of 1963 and 518 elk were released in 1964.

Nearly all suitable elk habitat in Montana has established elk herds at the present time. The transplanted elk have generally been used to supplement native herds or formerly transplanted elk.

During the past biennium a plant of sheep was made in the Sheep Creek area of Meagher County. A sheep plant of stock from the National Bison Range was also made near Lake Blaine in the Flathead Range of Flathead County. Supplemental plants of sheep were also made near Rexford, Lincoln County and in the West Gallatin area.

The Montana Department has continued the program of introducing Merriam's wild turkeys into all suitable habitat of the State. A total of 138 turkeys were transplanted during the past biennium in Chouteau, Fergus, Judith Basin, Jefferson, Lewis and Clark, Lincoln, Mineral and Stillwater Counties. These plants have nearly completed the distribution of turkeys throughout Montana's suitable habitat area.

The game farm at Warm Springs was operated during the past biennium and produced pheasants at maximum capacity for introduction into the various areas of the State. The primary basis for which this game farm is operated is to supply birds for areas meeting with natural disasters that severely reduced the native populations. In years without natural disaster the birds are released in heavily hunted areas prior to season openings to make maximum utilization of the annual farm production.





A radio transmitter collar is being placed on this elk for research purposes. The device with an antenna is for luning and a final check on the transmitter.

Montana Cooperative Wildlife Research Unit

The Montana Cooperative Wildlife Research Unit was established at Montana State University on February 8, 1950. It is operated through a coordinating committee with representatives from the State Fish and Game Department, State University and U. S. Fish and Wildlife Service.

Two new investigations were initiated by Unit personnel during this period. One study delives into the ecology of the Golden Eagle while the other is concerned with movements of the Northern Yellowstone Elk Herd.

Research Projects*

Several research projects have been completed, and the following are in progress:

beveral research projects have been completed, and the lonewing die in pic	791000.
Aging of Fishers and Analysis of Reproductive Systems	
A Physiological and Anatomical study of Bighorn Sheep	
Big Game Harvest Analysis	
Bighorn Sheep Population Study	
Ecology of the Golden Eagle	
Economics of Wildlife Production on Private Lands	
Elk Migration Study, Yellowstone National Park	New
Factors Influencing Horn Growth in Pronghorn Antelope	
Motion Pictures of Unit Activities	
Population Study of Canada Geese in the Flathead Valley	Continuing
Quantitative Aspects of Raptor Predation	Continuing
River Classification and Evaluation	Continuing
Seasonal Condition of Mule Deer	
Study of Alpine Ecology in the Northern Rocky Mountains	
Systematics of Blue Grouse in Northwestern Montana	Continuing

^{*}Completed projects have been reported on in journals or theses, and in addition, segments of sime continuing projects have been published.



RECREATION AND LANDS DEVELOPMENT

The Montana Fish and Game Commission established a new division in the Department's organizational structure during the fall of 1963. A Division of Recreation and Lands Development was set up to carry out the various functions of this expanded program.

One of the most important immediate objectives was determined to be the preparation of a state-wide recreation plan. Such a plan will act as a guide to the complete and orderly development of Montana's outdoor recreation potential. This plan will include a complete inventory of the state's recreation facilities. It will further determine the present and projected needs for recreation, both for Montana residents and out-of-state visitors. Finally, it will list an action program by which present and future needs will be met. All state agencies with recreational responsibilities will be involved in the preparation of this coordinated plan.

The Department's new division is directly responsible for the development and maintenance of recreational facilities at fishing access sites on lakes, streams, and rivers. It is further responsible for the construction of such facilities, where appropriate, on state owned and controlled game ranges and waterfowl management areas.

These developments consist of the establishment of necessary sanitary facilities and also cattle guards, boundary fences, picnic tables and fireplaces. In this way, public access to key fishing and hunting areas will be assured and participation in these especially important forms of outdoor recreation will be greatly enhanced.

By proclamation of the Governor on April 1, 1964, the Montana Fish and Game Commission was designated as the primary recreation agency for the State of Montana. This appointment represented a clarification of responsibility in this rapidly expanding natural resources field. It also emphasized coordination among state agencies in planning and carrying out recreation developments. The assignment in addition created a focal point of coordination between state and federal, and state and private recreational planning and programs.

At the submission of this report, the Montana Fish and Game Commission has acquired 73 fishing access sites. These have been carefully selected on and adjacent to important fishing waters. In addition, 25 excellent recreation areas have been determined to be available for development on presently existing game ranges and wildlife management areas. Detailed development plans are being prepared for all of these areas. This program includes the installation of necessary sanitary facilities, as well as basic recreational developments.

The following list of fishing access sites and game ranges and wildlife management areas is included in the Department's recreational development plan: (These are listed by name, county, and administrative district)

MONTANA FISH AND GAME COMMISSION SITES PRESENTING IMPORTANT OUTDOOR RECREATION POTENTIAL

Other - 5

DISTRICT 1

DISTRICT 1			Other — 5			
	Headquarters — Kalispel	1		NAME	COUNTY	
	Lake Access 19			Anaconda Hatchery		
	NAME	COUNTY		Arlee Hatchery	Lake	
,			3.	Blackfoot-Clearwater		
	Blanchard Lake			Game RangePowe		
	Boot Jack Lake			Bitterroot Game Range		
	Carpenter Lake		5.	Warm Springs Game Farm	Deer Lodge	
	Crystal Lake					
	Ducharme (Flathead Lake)			DISTRICT 3		
6.	Hey Greig Purchase at Big Fork			Headquarters — Bozen	nan	
	(Flathead Lake)	Flathead				
7.	Grinde Purchase			Lake Access — 8		
	(Flathead Lake)		1.	Brown's Lake	Beaverhead	
	Kila or Smith Lake		2.	Dailey Lake	Park	
	Lake Mary Ronan		3.	Harrison Lake		
	Loon Lake			(Willow Creek Res.)	Madison	
	Loon & Horseshoe Lake		4.	Meadow Lake (Ennis Lake)	Madison	
	Marl Lake		5.	Park Lake	Jefferson	
	Noxon Rapids		6.	Red Rock Lake	Beaverhead	
	Savage Lake		7.	Tizer Lake	Jefferson	
	Skyles Lake		8.	Bozeman Headquarters	Gallatin	
	Sophie Lake					
	Tetrault Lake			Stream Access — 14	1	
	Woods Bay (Flathead Lake)					
19.	Ashley Lake	Flathead		Burnt Tree Hole		
	Stream Access — 3			Cardwell		
,		T11 -1 1		Eight Mile Ford		
	Flathead River (Holt Bridge)			Ennis		
	Whitefish River	Flathead		Emigrant		
٥.	Flathead River	791 (1 1		Grey Cliff		
	(Old Steel Bridge)	Flathead		Jefferson River		
	Other — 5			Mallards Rest		
		773 -3 1		Paradise		
	Bowser Lake Game Range			Parrot Castle		
	Flathead Goose Islands			Sheep Mountain		
	Mary Ronan (Spawn Site)			Valley Garden		
	Pablo Management Area			Varney Bridge		
5.	Ninepipe Management Area	Lake	14.	Big Hole River	.Beaverhead	
	DISTRICT 2					
	Headquarters — Missoula			Other — 5		
	•		1.	Fleecer Mountain		
	Lake Access — 1			Game Range	.Silver Bow	
1.	Upsata Lake .	- Powell	2.	Gallatin Game Range.	Gallatin	
			3.	Madison-Bear Creek		
	Stream Access — 3			Game Range	Madison	
	Tamarack Gulch (Rock Creek).		4.	Madison-Wall Creek		
2.	Welcome Creek (Rock Creek)	Granite		Game Range		
3.	Marlowe Springs .	.Lake	5.	Canyon Ferry Reservoir	Broadwater	

	DISTRICT 4 Headquarters — Great Falls Lake Access — 5	Other — 1 NAME COUNTY 1. Bluewater Hatchery
2.	NAME COUNTY Arod (Brady Lake)Pondet Ackley LakeJudith Bas	DISTRICT 6 in Headquarters — Glasgow
4.	Carter Pond (Upper)	is I Bear Paw Lake Hill
1.	Stream Access — 1 Smith RiverMeagh	4. Whitetail Reservoir
2. 3. 4. 5.	Other — 6 Freezout LakeTetc Great Falls HatcheryCascac Judith River Game RangeJudith Bas: Lewistown HatcheryFergu Sun River Game RangeLewis & Clai Tiber ReservoirToole & Liber	Other — 2
1.	DISTRICT 5 Headquarters — Billings Lake Access — 1 Broadview Pond	1. Johnson Reservoir Dawson 2. Miles City Fish Pond (Branum Pond) Custer 3. Rush Hall Pond Fallon
	Stream Access — 11 AbsorkaStillwate	Stream Access — None
2. 3. 4. 5. 6. 7. 8. 9.	Absorka Stillwate Aspen Park Carbo Beaver Lodge Carbo Buffalo Jump Stillwate Bull Springs Carbo Columbus Stillwate Horse Chief Station Carbo Rosebud Isle Stillwate Sweetgrass Canyon Sweetgrass Swinging Bridge Stillwate Water Birch Carbo	Development work is currently being carried out at the following areas, which are included in the complete list of sites. It is planned that, as funds become available, the remainder of the areas will be developed to their potential in regard to recreation. This should represent an important contribution to the state's over-all Outdoor Recreation.

PRESENT DEVELOPMENT OF FISHING ACCESS SITES

Зеα	n's Lake (Augusta Ar	ea)	Brown's Lake (Glen Are	α)	
4	latrines	l well and pump	cleanup	6 t	ables
	J	l mile fence	2 latrines	6 f	ireplaces
	tables fireplaces	l boat launching ramp	6 garbage containers	l s	ign
1	sign	4 cattle guards			
1/4	mile seed week				

Sheep Mountain

(Yellowstone River-near Livingston)

				,
2 latri	nes	$1/_{4}$	mile	road
4 garb	age containers	1	acre	cleared
4 table	es	1	sign	
4 firep	laces	1/2	mile	of fence
l bride	ge			

Ennis (Madison River)

2	latrines	Drinking Water
6	garbage containers	(Provisions For)
6	tables	Riprapping—river's
6	firenlaces	edre

Swinging Bridge (Stillwater River

wп	ignig bridge (Silliw	ulei	IIIver,
2	latrines	1	bridge
4	garbage containers		road gradin
4	tables	1	cattle guard
4	fireplaces		

Blanchard Lake (Whitefish Area)

2 latrines	l boat launching
2 garbage containers	ramp
3,200 linear feet of road	3 tables

3 fireplaces

Harper Lake (Blackfoot-Clearwater)

2	latrines		2	fireplaces
1	garbage	container	1	sign
- 1	table			

Bear Paw Lake (Havre Area

Bean	Paw Lake (Havre	Are	ea)
1	latrine	1	well
20	garbage containers	4	interior signs
15	tables	1	incinerator
28	fireplaces	1	bonfire circle
21/2	miles fencing	2	boat docks
2	cattle guards	3	shelters
1	entrance sign	15	parking barriers

Necessary maintenance is an especially important part of the Department's outdoor recreation development program. It is expected that arrangements will be made, following the completion of each area's development, for a system of continuous maintenance.

STATISTICAL SECTION

The operations of the Montana Fish and Game Department are based on the best information available. During the past two years over one million dollars was spent for fact finding. The purpose of these expenditures was to maintain or increase the recreational potential of Montana by knowing what is happening to fish and wildlife.

The statistical section works with all divisions to increase efficiency in fact gathering.

Annual surveys are conducted by mail questionnaires which give the Department an estimate of harvest of upland game birds, waterfawl, big game, furbearers and fish. A great deal of information is obtained that aids in management. The production of this information is being implemented by having data analyzed on high speed electronic computers. In this way, the data is available to the Department and the public as soon after a hunting season as possible.

To further reduce the costs of collecting intermation and to implement its becoming a part of fish and game management, the Statistical Section was instrumental in the design of the new license system. This system, the first major license change in several decades, saved the Department several thousands of dollars in forms costs the first year. It will provide a licensing system that will insure quicker, cheaper information to the game, fish and enforcement divisions.

Montana's wildlife and fish habitat is undergoing increased evaluation. The economic evaluation of stream destruction, the use of range by game animals and domestic livestock, the effects of overpopulation of big game have all been large research problems which have occupied the services of the Statistical Section. Fisheries studies on Canyon Ferry Reservoir, Flathead Lake, and Rock Creek near Missoula represent large full scale studies that can only be covered economically by sampling and statistical analysis.

These projects have meant a maximum amount of data at the earliest possible time at the cheapest cost. The goals provide new insights into the management of resources and more information that will help maintain a recreational resource.



FISHERIES

Montana is truly a great fishing state. Her trout streams are unexcelled. A few years ago 450 top American sport fishing experts completed a 4-year survey and selected the 100 best trout streams in the country. Twelve of the 100 were in Montana, and the Madison River was named as the nation's number one trout stream. Each year trout from Montana waters receive honors in a fishing contest conducted by a national sports magazine.

Although best known for trout, Montana has good bass, walleye, sauger, kokanee, northern pike, paddle fish and whitefish fishing as well. Grayling are more numerous here than in any other state except Alaska.

Fish Habitat Preservation

In working to perpetuate this valuable resource, Montana fisheries biologists are among leaders in the nation on studies and action programs to protect trout habitat in streams. Habitat is the natural abode or home of an animal. An animal, species or community of animals can be destroyed as surely by subtle changes in habitat as by annihilation with poison. Habitat is the key to wildlife abundance.

During the biennium a study on the effect of silt on trout streams was completed. It showed that large sediment concentrations in a stream are disasterous to trout production. In Bluewater Creek, Carbon County, large sediment concentrations practically eliminated insects important as trout food, eliminated trout reproduction, and in turn the trout population. Grayling eggs and kokanee eggs fared no better than rainbow, cutthroat and brown trout eggs; however, sucker eggs were able to withstand sediment with little loss.

Since 1957 the Department has assigned a fisheries biologist to the position of Pollution

Control Biologist. During the biennium he has investigated water quality and pollution problems on various streams of the State. This included a study of the effects of aerial application of DDT near Boulder, Montana by the U. S. Forest Service. Dead fish, mostly trout, were recovered from waters in this area and dead frogs were reported in a pond. Large numbers of aquatic insects (fish food) were killed in the streams and complete insects kills occurred in some stream sections. Sampling one year after the spraying indicated that the aquatic insect population has substantially recovered with the exception of caddis flies at some stations.

A department-supported doctoral thesis, THE EFFECT OF DDT ON COLD WATER FISH AND FISH FOOD ORGANISMS, was completed during the biennium. Among other findings, delayed mortality occurred during a six-month observation period in all species of fish treated with DDT. Aquatic insects in a test stream were reduced 99 percent following application of DDT at one pound per acre (the rate then



Fort Peck Dam Dredge cut. (Photo by U. S. Army Corps of Engineers)

used in Montana forest spraying against spruce budworm) and required 18 months to regain pre-treatment numbers.

During 1962, thirteen Montana trout streams were surveyed to measure the amount of stream channel alterations and to determine the parties responsible for the alterations. The streams were chosen so as to cover all areas of the state. It was found:

- One-third of the total length of the streams surveyed (250 of 768 miles) had been altered from their natural condition.
- There were nearly three alterations per stream mile and the average length of a stream alteration was 664 feet.
- The most serious loss to fish production was nearly a 10 percent decrease in the natural length of stream channel.
- 4. There were over 5½ times as many catchable-sized trout and nearly 10 times as many whitefish censused in natural channels as in the altered channels.

A booklet describing the survey and its results was published by the department. It was acclaimed by Oscar Godbout in THE NEW YORK TIMES (April 21, 1964) "one of the most impressive pieces of documentation of damage this writer has ever seen".

The 1963 legislature passed the Stream Conservation Law whereby protection and preservation of fish and game resources, particularly fishing waters, was declared to be a policy of the state. The law provides that agencies or subdivisions of the state government shall give the Fish and Game Commission advance notice of projects affecting stream channels. The Fish and Game Department reviews plans for such projects and, if damage will occur to fish or game habitat, the commission makes recommendations to evade or minimize the damage. The law also provides for arbitration if agreement cannot be reached between the Fish and Game Commission and the constructing agency.

Construction of Fishing Lakes

During the biennium the department built a dike across the dredge cut which was dug when Fort Peck Dam was built. The dike isolates a 65-acre lake which has been chemically treated to eliminate non-game fish and replanted with trout. The U. S. Army Corps of Engineers cooperated in this project.

The department gave financial assistance to other organizations and agencies in the following projects involving public fishing lakes:

Increasing depth of 12-acre combination stockwater pond on Rush Hail ranch near Baker, Montana to make it suitable for fishlife.

Construction of 10-acre pond in Hollecker Recreation Park at Glendive, Montana.

Construction of 92-acre reservoir on Box Elder Creek watershed at Plentywood, Montana. Enlarging Gartside Lake at Sidney, Montana to 40 acres and improving spillway. Enlarging Snowbank Lake at Lincoln, Montana to 6½ acres.

PUBLIC FISHING ACCESS SITES

Public fishing access sites were obtained on the following waters:

Water	County	No. of sites	No. of acres
Marl Lake	Lincoln	1	3.02
Loon Lake	Lincoln		
Whitetail Res	Daniels	2	65.26
Carters Ponds	Fergus		4.80
Browns Lake	Beaverhead	1	73.78
Rock Creek	Granite	1	4.00
Flathead Lake	Flathead	2	4.47
Jefferson River	Jefferson & Madison	2	36.53
Smith Lake	Flathead	1	3.16
Beans Lake			
Flathead River	Flathead	1	11.59
Big Hole River	Begverhead	1	15.00

Construction of Clearwater River Fish Barrier

Late in 1963 a fish barrier (low dam creating a falls) was constructed across the Clearwater River between Alva and Inez Lakes. This is the second such barrier to be built on the Clearwater—one was built just below the outlet of Rainy Lake in 1957. These barriers will permit progressive chemical treatment from the headwaters downstream to eliminate non-game fish without danger of reinvasion by non-game fish from below. The small fish management units created by the barriers can be thoroughly treated with chemicals and managed individually.

Missouri River Fish Population Study

Various agencies of the federal government have made recommendations for development of the Missouri River from Fort Benton downstream to Fort Peck Reservoir. Recommendations range from complete impoundment with a series of dams to preservation of this reach of river as a National Wilderness Waterway.

None of the reports by these agencies contain factual information on the fisheries resource or the probable effects the various developments will have on this resource.



Clearwater River Fish Barrier—to prevent upstream movement of rough lish.

To gain needed information, a fish population study with fish traps was undertaken in 1962 and 1963. Information to date indicates a sauger population, under-utilized, but of great potential value. Also there are channel catfish, paddlefish and burbot with potential sport fishery value.

The Fisheries Division plans to continue the inventory of the fish population in the Missouri River with emphasis on the relationship between fish in the river and in its tributaries. Only in this way can the proposed developments on the Missouri River be adequately evaluated and provisions made to preserve the fisheries resource.

Helicopter Mountain Lake Survey

It is estimated that Montana has 2,000 mountain lakes. A considerable number are inaccessible to even four-wheel drive vehicles.

Although mountain lakes presently support a relatively small part of Montana's sport fishing, there is considerable interest from sportsmen and outfitters regarding their management. Also, the department is frequently asked for recommendations on mountain lakes being considered for irrigation development. Such recommendations should be based on a knowledge of all lakes in the immediate area. Only in this way can the importance of an individual lake be judged.

In 1962 the Montana Fish and Game Department purchased a helicopter for fish and game management work. Immediately mountain lake survey gear and methods were modified so this modern means of transportation could be used. A cost analysis of 45 lakes surveyed in 1962 disclosed the cost of transportation was \$74.44 per lake. This was \$5.00 less than our lowest cost per lake for rented horseback transportation. The survey took 13 days whereas by the old method 30 days would have been required.



The use of a helicopter has greately simplified survey work on high mountain lakes.

During the biennium the helicopter was employed in surveying 87 lakes. Here are the results:

Lakes for which fish planting was recommended	9
Lakes not recommended for planting	
Already overstocked (naturally or	
with hatchery fish)	7
Adequate self-sustaining game	
fish population	25
Not suitable (physical aspects of lake	
or terrain)	41
Planting deferred (additional information	
needed or lake being held in virgin	
condition for future management)	5
	_
Total mountain lakes surveyed by	
helicopter, 1962-63	87

Our surveys in recent years have shown decisively that indiscriminate stocking of cold, infertile mountain lakes is not only wasteful but damaging. Damage is possible from overstocking and in some cases from introduction of fish detrimental to existing species. The need for investigating these lakes before planting has been clearly demonstrated, and the helicopter has proven an invaluable tool in this program.

Fish Manager Assigned Southeastern Mantana

During the biennium α fisheries manager was assigned to the Fish and Game Headquarters at Miles City, the last district without α fisheries manager. In addition to fisheries work on Yellowstone and Tongue Rivers and other streams in the district, considerable emphasis will be placed on developing sport fishing in the numerous ranch ponds and small lakes.

Paddlefish Fishery in the Yellowstone River

In April 1962 an unusual fishery was rediscovered at Intake Dam on Yellowstone River just downstream from the City of Glendive—it was paddlefishing. Paddlefish feed on plankton (microscopic animals in the water) and will not take ordinary bait. Fishing is done by snagging.

Intake Dam was built in 1903. "Old-timers" report snagging was excellent in 1914, '15 and

'16, but after that, sport catches of paddlefish were not heard of until 1962. Starting in 1962 snagging has been excellent for a few weeks each spring during the paddlefish spawning migration. As many as 30 fishermen at one time line the banks 50 to 100 yards below the dam.

Studies are underway on the reproductive rates of paddlefish in Montana, the age of sexual maturity, and other phases of their life history. This information will be used in developing a management program to insure perpetuation of the paddlefish and, in turn, paddlefishing.



Paddlelishing near intake on the Yellowstone River.

Outlook

The point has been reached in fisheries management where a hard look must be taken at allocation of the fisheries management dollar.

The use of hatchery fish is often effective, but expensive. Under many circumstances the use may be ineffective. It presently is the major expenditure in fisheries management. In many waters we have reached the point of diminishing returns. In other words, on these waters we have reached the point where additional hatchery fish do not improve fishing enough to justify the additional cost. Even more important, money spent on the ineffective fraction of hatchery production is denied to more effective programs.

We plan a shift in the fish management program from over-emphasis on fish planting to a better balance between planting and other programs. These "other" programs include lake building, acquisition of fishing access, and chemical treatment to eliminate undestrable fish so desirable species can be replanted. Highest priority will be given to preservation and restoration of fish habitat: and where possible, improvement of fish habitat.

Montana Cooperative Fisheries Research Unit

On July 1, 1963, the Montana Cooperative Fisheries Research Unit came into being. It is supported jointly by the Montana Fish and Game Department, Montana State College and U. S. Bureau of Sport Fisheries and Wildlife. The unit is located at Montana State College, Bozeman. Its purpose is multiple: training of professional fisheries workers, research on fisheries problems, and demonstrating fisheries principals to other agencies, landowners, and the public. Fisheries units were established in several other states at the same time as in Montana and are comparable to Cooperative Game Research Units which play an important part in the game management programs of many states.

Fish Hatcheries



Taking fish spawn.

The Montana Fish and Game Department operates nine fish hatcheries located at Anaconda, Arlee, Big Timber, Bluewater (Bridger), Emigrant, Great Falls, Lewistown, Libby and Somers. The potential production of any hatchery is controlled by water quality, temperature and volume. These are most favorable at Lewistown, Anaconda, Bluewater and Great Falls. Thus these are the best stations and together with Arlee produce over 90% of the catchable-sized fish used in management programs. Arlee is the brood station for rainbow trout. A high-quality brood stock of these fish has been developed at Arlee and this station now produces all the rainbow eggs the department requires. Prior to the development of this brood, eggs were provided by trapping wild stocks and by direct purchase from out-of-state sources. Not only do we now have better quality eggs, but the supply is more dependable and the cost of eggs has been reduced.

Water temperature and volumes are not conductive to high fish production at Emigrant.

Big Timber, Somers and Libby. When these stations were built, trout planting consisted primarily of eggs and fry, so water temperatures (and therefore trout growth rates) were not considered important. Also, at the time these stations were built the hauling of large numbers of fish for great distance was almost impossible and it was considered necessary to have many small hatcheries scattered throughout the state, each with a small distribution area. Today it is known that larger-sized fish must be planted in most Montana streams and in many of the lakes to realize a better return of these fish to the creel. Also today the department has large, efficient distribution units which can transport fish in good condition across the entire state. Thus the rainbow production program no longer needs widely scattered, small, cold-water stations, and Emigrant, Big Timber, Somers and Libby are used for other purposes.

At the Libby station the fisheries division is developing a broad stock of westslope cutthroat trout. This species is needed for northwestern Montana and no other source presently exists except wild stocks. The Somers station collects the eggs required from wild fish-cutthroat, grayling and kokanee. Some of these are hatched at Somers and some are distributed to other stations. The Emigrant and Big Timber stations raise some rainbow. Their colder water is utilized in connection with one of the bigger production stations to arrive at a proper sized fish for some special purpose. These are required at a different time of the year than such a sized fish could be produced if held entirely at a warm-water station. Emigrant and Big Timber also rear some Yellowstone cutthroat trout primarily for planting in mountain lakes. The need for two such stations has been greatly reduced over the past years and plans are to close one of these stations in late 1964.

The problems of raising fish are naturally complex. The product is alive and must be kept alive and healthy. It is continually growing in size and weight, compounding the problems of keeping the product within the limits of space and water available. It must be produced to a proper size at the right time of year for the waters in which it is to be planted. It is subject to a veritable host of diseases which,

if left untreated, could completely eliminate the production of a hatchery. There are, in addition, the problems inherent with the handling of water; broken or plugged pipelines, flooding, silting, and the like; all of which can seriously damage hatchery operations.

The Montana hatchery system is alert to the many problems it faces. This alertness has made the production of quality fish a goal rather than the production of large numbers and pounds of fish alone. A quality fish may survive to end up in an angler's creel while a fish reared in an over-crowed or unsanitary condition will be nothing but a distribution figure from a hatchery.



Use of aircraft and other modern methods has simplified and improved planting of fish.

Number

FISH PLANTED AND EGGS PRODUCED BY MONTANA STATE FISH HATCHERIES

May 1, 1962 - April 30, 1963 Rainbow Trout

2"	1,225,359
3"	1,254,734
4".	1,259,831
5"	31,373
6"	252,097
7"	252,588
8"	298,906
9″	324,715
10"	90,994
11"	44,215
12"	3,488
Total Fish	5,038,300
Total Eggs	9,029,083

May 1, 1963 - April 30, 1964 Rainbow Trout

Size	Number
2"	600,194
3"	2,125,819
4"	734,796
5"	439,809
6"	928,875
7"	431,185
8"	366,716
9"	430,060
10"	139,300
11"	1,076
12"	2,653
otal Fish	6,200,483
otal Eggs	9,213,077

Size

Cutthroat Trout		Cutthro	oat Trout
Size	Number	Size	Number
1"		1"	2,592
2"		2"	129,966
3"	22,478	3"	117,327
4"		4"	
5″		5"	
6"		6"	7,876
7" 8"		7"	_,
11"		8" 11"	
12"		12"	
Total Fish		Total Fish	
Total Eggs	2,0,001	Total Eggs	
	,,		
Brook Trout			Trout
Size	Number	Size	Number
2"		2"	
3″		3″	
4"		4"	
5″	7,720	5″	7,728
Total Fish	193,712	Total Fish	105,605
Golden Trout		Golde	n Trout
Size	Number	Size	Number
I"		1"	13,260
3"		3″	
Total Fish		Total Fish	
Grayling		Gra	yling
Size	Number	Size	Number
Fry	360,500	Fry	401,000
8"		8″	
12"		12"	603
Total Fish	371,039	Total Fish	
Total Eggs	619,496	Total Eggs	1,033,296
Kokanee		Kok	anee
Size	Number	Size	Number
Eggs	. 8,682,664	Eggs	. 7,140,240
Fry	3,090,427	Fry	. 4,947,124
GRAND TOTAL—State		GRAND TOTAL—State	•
Eggs Produced	.19,781,556	Eggs Produced	18,126,334
Fish Planted	8,973,279	Fish Planted	11,935,242

FISH PLANTED BY NATIONAL FISH HATCHERIES IN MONTANA

May 1, 1962 - April 30,	1963	Мау	1, 1963 - April 30,	1964
Rainbow Trout			Rainbow Trout	
Size	Number	Size		Number
2"				
3"	. 78,048	3"		3,066
4"	. 203,971	4"		
5"	106,399	5"		179,174
6"	. 286,961	6"		591,971
7"	27,998	7"		8,230
8"	40,752	8"		102,874
9"	205,093	9"		81,219
10"	231,889	10"		. 266,306
11"		11"		87,826
12"		12"		1,469
Total Fish	1,346,403	Total Fish		1,322,135
Cutthroat Trout			Cutthroat Trout	
Size	Number	Size		Number
2"	122,076	2"		. 84,421
4"	18,330	4"		
5"		5"		. 23,328
6"		6"		78,695
12"	5,808	12"		
Total Fish	146,215	Total Fish		186,444
Mackinaw Trout	:		Mackinaw Trout	
Size	Number	Size		Number
4"		4"		14,631
Grayling			Grayling	
Size	Number	Size		Number
4"	22,108			Trained:
5"	4,154			
Total Fish	26,262			
Bass			Bass	
Size	Number	Size		Number
2"	85.760	3″		90,000
3"				
Catfish			Catfish	
Size	Number	Size		Number
3"	9,000	3‴ —		20,608
Bluegill			Bluegill	
Size	Number	Size		Number
1"	45,100			
4	10,100			

GRAND TOTAL National . 1,658,739 GRAND TOTAL National 1,633,818



Warden trainees receive lirearms training from F.B.I. instructors.

LAW ENFORCEMENT DIVISION

During the past biennium, outdoor recreation has continued to expand. The use of Montana wildlife resources reflects this expansion.

An efficient and well-trained field force of wardens is important to the proper administration of the wildlife resource. Basic to having this type of force is the selection and training of new wardens.

Training and Supervision of Personnel

To meet this need for competent and well-trained personnel, the Department has entered into a new training program for its law enforcement officers during the past blennium. The training program is designed to have the trainees as close as possible to full job knowledge when they step into their newly assigned districts.

The game warden's job has grown to a complex job involving not only law enforce-

ment but also assistance in game management, fish management and public relations.

The new warden is no longer given a badge and law book and sent into the field to sink or swim, nor is he taken under wing by an old hand. These methods may have been less costly money-wise but were less effective and expensive public relation-wise. With the new training program, the warden after his one year probationary period has a greater job knowledge.

The program, an individual training and development program, was designed to increase the versatility and efficiency of the employee in work assignments, thereby developing a well-trained work force to improve the cooperation, efficiency and economy of department operations.

Upon employment, the new warden is introduced to the first of four portions of the program. He attends an orientation and training

school conducted by the Department with instructors from the department's personnel, the University and College, Federal Bureau of Investigation, Attorney General's office and a number of other cooperating agencies.

As he attends the school he builds a training manual that provides him with the basic knowledge necessary in fulfilling his duties and responsibilities. Through lecture and reference reading the trainee fills in sections of the training manual. Other sections, some of which can be learned through practical experience only, are written in for self-study or presented in classrooms. As subjects are given at the training school, the trainee develops his manual into the following major sections:

- A. Orientation Section consisting of a brief history of the department and the organizational structure of the department.
- B. Administration, Forms and Reports Section in which the trainee is familiarized with the communications, personnel information, forms and reports.
- C. Law Enforcement Section in which the technical aspect and practical aspect of wild-life law enforcement is given. Subjects in this section consist of a practical case in the field, search and seizure, laws of arrest, courts and court procedure, rules of evidence, collection and preservation of evidence, defensive tactics, firearms training, FBI facilities and services.
- D. Equipment and Techniques Section is a written section for self-assigned reading. This section includes a listing of equipment available for the warden's use and its maintenance.
- E. Information and Education Section consists of public speaking, public relations, news and letter writing, water safety and hunter safety.
- F. Game Management Section includes information and study of the Wildlife Investigation Laboratory, game management practices, "show-me-trips", range management, live trapping of big game and game range operation.
- G. Fish Management Section includes orientation to fish management practices, fisheries biology, fisheries research and hatchery operations.

The second portion of the training program is the initiation of the individual's Training History Record. From reviewing these records, wardens can be selected for special assignments according to their experience and training. The History Record will reveal needed training for certain individuals. It will be a useful reference when job openings in advanced grades are available.

The third portion of the program is the Employee Development Plan. This plan is prepared for all new employees immediately after employment. It is continued in effect until all major jobs or activities in the department related to the warden's job have been experienced. This is a month by month training action plan giving details of work with the Game Management, Fish Management, Information and Education and Law Enforcement Divisions. plus the self-assigned studies. This plan is used by the training officer and warden captain for evaluating the development of the trainee, planning his probationary year training program and checking his progress currently. It can be used as a basis in determining appropriate training details, assignments and transfers. It should be used by the trainee as a guide to self-development.

The last portion to be initiated is the Individual Self-Improvement Plan. It is used to emphasize training needed to improve performance in his present position and the development needed to improve the warden for the job ahead.

In August of 1963, this training program was initially started with ten wardens. They completed a four-week intensive training school and are currently included in a year's guided onthe-job training with all department divisions.

In addition to this expanded training program, the Enforcement Division has continued in many other phases of activity.

Law Enforcement

Law enforcement is still the basic duty of the game warden. Patrolling the streams, fields and forests to prevent or apprehend violations of the Fish and Game Laws or Rules and Regulations of the Commission is still the most important part of the enforcement program. The tables on the following page gives comparative information on the results of this activity.



All Wardens are required to have training in current first aid techniques and to carry first aid cards.

In order to more effectively deal with the modern law violator, a new organizational plan has been instituted. The Montana Fish and Game Commission has authorized three new Enforcement Specialist positions whose duty it is to work on problem areas of enforcement. They may be moved any place in the state on short notice to deal with the more difficult enforcement problems. While the plan has only been in operation a short time, it is already showing very good results.

Water Safety

The use of Montana waters by boaters, swimmers, fishermen, and water skiers continues to increase and the problems of enforcement of water safety laws also continue to increase. Ample funds and clear responsibility for administration will have to be provided in the future to properly administer these expanding water activities.

Firearms and Hunter Safety

New legislation, effective this biennium, requires all children between 12 and 18 to take and pass a course of instruction in safe fire-

arm practices before they may legally purchase a hunting license.

The worden force administers the field portion of this program through a very cooperative and effective volunteer system of instructors and county chairmen.

The new requirement has made necessary an expansion of this program, to provide adequate instruction for the additional students under the new law.

Bear Depredation and Game Damage Control

The control of bear depredation and game damage on private property is another basic and important warden responsibility. The past biennium showed an increase in this phase of the program with a relatively long and severe winter contributing to the problem. Cooperation with landowners in working out mutual problems and programs will help insure public access to private land in future years.

Fish and Game Management

Scientific information is the foundation of the present wildlife management programs. Wardens assist in the gathering of this information under the supervision and guidance of qualified personnel.

Youth Groups

Each warden is a part of the community in which he lives. His assistance with youth activities in the community to promote wildlife conservation with the children is an important part of his job in promoting the future of the wildlife resources. The Fish and Game Department has equipped each warden with a small wildlife reference library to assist him in his youth program. Other information and educational aids such as slides, lectures, movies are also available for this purpose.

Littering

Littering of recreational areas both public and private has continued to be a severe problem. Our present litter laws are not extensive enough to control this problem under all conditions.

Wardens participate in preventive programs and aid in the enforcement of the present laws, however, more comprehensive laws will eventually be necessary.

FISH AND GAME VIOLATIONS By Type of Violations

May 1, 1962 through April 30, 1963	May 1, 1963 through April 30, 1964
. 441	446
. 73	150
538	502
24	22
113	103
44	49
318	174
1,551	1,446
	April 30, 1963 441 73 538 24 113 44 318

FISH AND GAME VIOLATIONS By Supervisor Districts

	May 1, 1962 through April 30, 1963	May 1, 1963 through April 30, 1964
District No. 1	159	128
District No. 2	256	236
District No. 3	397	326
District No. 4	262	224
District No. 5	244	210
District No. 6	75	121
District No. 7	157	201
TOTALS	1,551	1,446

FISH AND GAME FINES By Type of Violations

	May 1, 1962 through April 30, 1963	May 1, 1963 through April 30, 1964
Big Game	\$18,842.98	\$17,728.10
Game Birds and		
Migratory Waterfowl	1,564.00	4,131.85
Fish	9,751.50	10,378.30
Fur Bearers	420.00	309.00
Water Safety	911.65	1,001.50
Shooting Safety	497.50	1,107.50
Miscellaneous	8,030.90	4,361.70
TOTALS	\$40,018.53	\$39,017.95

FINANCIAL REPORT

MONTANA HUNTING AND FISHING LICENSE SALES 1962 through 1963

												-
LICENSE	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1983
Resident Bird & Fish	183 770	181 560	186 395	189 449	191 081	189.048	187.949	185.727	186.969	185.719	188,898	195,847
	116 566	117 004	101 210	104 099	101 008	118 235	010161	118 649	120.040	121.629	122.659	122.291
Non-Box Timited Fishing	27 040	21 205	33 031	36.671	41 328	41.869	40 933	40.522	39.252	41.599	48.714	53.836
Non-Res Season Fishing	5.017	4 080	4 005	4 134	5 090	5 705	5.859	5.801	5.562	5,668	6,537	7,103
Non-Resident Bird	262	149	201	242	268	277	308	333	327	306	283	332
Non-Resident Big Game.	1,615	1,607	1,547	2,180	2,974	3,774	3,923	4,088	4,279	4,541	5,537	7,183
Bow and Arrow		535	715	841	1,453	1,929	2,413	2,753	2,355	2,196	2,193	2,270
Special Antelope	18,622	23,677	20,886						:			
Special Moose	211	142	192	343	405	411	572	202	553	633	836	818
Special Elk	341											
Special Deer	4,270											
Special Mountain Sheep		30	53	28	269	195	302	327	413	380	458	518
Special Mountain Goat.		20	100	225	851	1,070	1,398	1,203	1.217	1,138	1,359	1,640
Special Buffalo		ო	6									
Non-Resident Deer				2,623	6,445	5,038	7,533	9,291	12,042	13,427	15,228	10,575
Non-Resident Antelope				3,495	5,033	2,895		1,237	1,043	2,778	3.714	4,280
Boat Applications								6,895	2,789	1,931	1,592	
Turkey Permits								814	1,144	1,466	1,573	2,510
Non-Resident Bear										98	107	
Boat Renewal											4.318	
TOTALS	358,614	361,112	369,040	365,193	376,223	369,445	372,210	378,145	377,983	383,487	404,003	409,223

It should be noted that the following financial data includes only the period from May 1, 1962 through April 30, 1964. This information will not correspond to financial data based on the Fish and Game Department fiscal year beginning in July and ending in June of successions. sive years.

1962 LICENSE SALES BY COUNTIES

				1											
COUNTY	Resident Bird & Fish	Resident Big Game	Limited Fighting	Non-Res. Fishing	Non-Res, brid	Non-Res. Big Game	d woll worth	Non-Res. Deer	Boat Renwl,	Mt. Goat	goat	Ілікеў	N. R. Bear	Special Permits	Totals
Bedverhead	3,123	2,187	2,908	263	2	438	28	1	26	1	11		2		8,989
Big Hom	1,852	1,207	147	29	15	9	14	121	17		9	45			3,489
Blaine	1,298	941	28	47"		_	29	27	19		2				2,349
Broadwater	972	689	171	18		15	16	29	24		т				1,967
Carbon	2,467	1,517	487	85	2	24	14	94	13		m		2		4,708
Carter	603	602	11	0		20	7				2	100			1,348
Cascade	21,279	12,410	1,723	495	29	125	331	423	465	92	217	11	4		37,604
Chauteau	1.589	1,071	7.1	16	9	2	17	20	54		7				2,853
Custer	2,837	2,302	7.1	29	7	148	45	47	34	1	19	220			5,759
Daniels	618	476	4	_					00	:	7			:	1,114
Dawson	2,655	2,015	73	14	co	18	67		37		16	88			4.987
Deer Lodge	4,461	2.253	728	19	_	38	21		82		32		က		7,683
Fallon	1,062	975	10	00		13	25		-	į	2	203	i		2,299
Ferqus	5,750	4,515	694	158	91	69	185	1,214	57	:	32	271			12,961
Fathead	12,149	8,137	3,422	455	==	227	105	182	556	199	214		15		25,672
Garatin	9,328	5,659	13,120	1,336	Ξ	381	102	248	180	:	99		-		30,432.
Garfield	412	394	12	2	i	00	ις	888	က		ιS	73			1,802
Glacier	2,079	1,171	467	06	က	30	36	14	59	16	14	:			3,982
Go den Valley	368	291	26	00	i		12	25	S		1	2			738
Gramite	1,050	779	274	33	_	19	es		12		e		2		2,176
H	3,510	2,071	80	18	S	S	52	26	133		28				5,928
Jefferson	1,008	709	313	41		37	S	18	14		Ŋ				2,150
Judith Basın	1,050	763	79	18	1	=	က	49	19		en				1,995
Lake	4,216	2,273	2,382	239	17	62	44	18	185	49	28		2		9.505
Lewis & Clark	9,511	5,800	1,363	288	7	1,936	197	1,121	573	222	116	107	7		21,248
Liberty	721	339	40	00	i		23		91	:	ιO				1,227
Lincen	4,729	3,365	1,107	203	က	44	33	27	63	27	33		0		9,643
Madison	2,195	1,355	5,097	276	00	279	7	_	12	:	က		7		9,240
McCcne	547	466	00	က		S	00	99	10		က				1,116
Meagher	1,229	983	215	22	i	40	10	281	2	:	4	1	-		2,790
Minera	1,236	1.029	870	486	11	149	2	53	47"	:	u?	1	S		3,826
M = ula	14,077	8,907	2,614	413	43	383	23	99	334	188	113	81	18		27,290
M-ssel he	1,298	994	104	18	-	00	15	569	7	:	-	25			2,740

1962 LICENSE SALES BY COUNTIES—(Continued)

COUNTY	Resident Bird & Fish	Resident empD pid	Limited Fighting	Non-Res. Fishing	vea R. no N Bird	Non-Res. Big Game	2 wod wo11A	Non-Res. Deer	Boat Renwl,	Mt. Goat	goat	Intkey	N. R.	Special Permits	Totals
Park	4.735	3,357	1,756	197	s	126	40	318	42	:	19		4	:	10,599
Petroleum	208	176	10	က			:	182	;	i	S				584
Philips	1,352	1,089	34	11	4	œ	13	158	28	1	1				2,697
Pondera	2,188	1,306	108	25	9	15	48	20	108	7	25	:	1	:	3,857
Powder River	298	546	10	10		19	12		:	:	-	28	:	:	1,254
Powel.	2.102	1,449	277	40		54	7	_	42	6	4				3,985
Praine	438	375	60	2		4	2		2	i	-	ιΩ	i		835
Raval'ı	4,078	2,782	1,478	150	ო	231	4		29	;	16	29	7		8,837
Richland	2,035	1,428	46	23		9	51		29		16				3,635
Roosevelt	2.145	1,552	43	Ξ	10	12	28	26	51	1	16				3,894
Rosebud	1,097	926	32	m	-	S	18	13	12	1	7	111			2,243
Sanders	2,548	2,032	1,234	212	10	66	11	239	54	21	22		11		6,493
Shendan	1,042	757	1	i	S	ω	4	i	24	1	7				1,848
Silver Bow	11,108	5,706	1,163	147	-	164	99		200		118		1		18,674
Stullwater	2,144	1.274	436	42		23	33	196	19		8				4.170
Sweet Grass	1.228	901	426	41	-	43	13	228	Ξ		4		4		2,900
Teton	2,174	1,290	193	33	2	41	28	24	98	28	28				3,957
Tcole	1,518	916	73	19	1	80	22	11	105		11				2,684
Treasure	256	200	12	2			i	į	12	!	-	12			495
Valley	4,969	3,474	219	30	en	13	87	100	9/		54	11			9,036
Wheatland	1,079	882	154	20	က	18	27	183	00	;	2				2,379
Wibaux	278	245	ෆ	16	;	;	4		_		-	15			563
Yellowstone	18,299	11,321	1,150	167	19	93	194	317	277	1	192	105	-		32,135
Idah	1	i	20	64	1	į		4							118
Utah		:	382	19	:	-								1	1,047
Washington	1	:	92	26	!	S	4	7					i		137
Wycm:n3		1	4	ω	9	;	1	7		:					25
Special Licenses														0	e e
N-n-Resident Antelope														098'/	0927
Moun'ain Goats														0,714	5,7 I4
Moose														836	836
Sheep														456	456
					1	1			1	1	1	1	ł		1
TOTALS	188,898	122,659	48.714	6,537	283	5,537	2,193	7,368	4,318	888	1,592	1,573	107	13,336	404.003

1963 LICENSE SALES BY COUNTIES

COUNTY	Resident Bird & Fish	frebiseR empD yi8	betimid PaidaiT	Non-Res. Fishing	veaR-noM Bird	Non-Res. Big Game	è wod wonA	Ілікеў	Mt. Goat Rednjar	Special sim194	alptoT
Beaverhead	3,527	2,425	2,810	252	1	607	28	2	12		9,664
Big Horn .	2,152	1,275	196	97	23	23	22	64			3.852
Blaine	1,300	948	14	S	4	4	22				2,297
Broadwater	612	369	188	S	2	23	ო	က			1,205
Carbon	2,570	1,461	566	86	S	18	13				4,731
Carter	644	584	29	6		28	ო	115			1,412
Cascade	22,226	12,339	1,785	295	18	147	372	70	83		37,335
Chouteau	1,709	1,074	74	13		7	19				2,836
Custer	2.862	2,156	113	17	Ξ	307	36	307			5,809
Damels	745	494	10	1	i						1,250
Dawson	2,926	2,099	109	29	00	47	81	139			5,438
Deer Lodge	4,393	2,293	857	84	-	55	11		6		7,703
Fallon	1,246	1,052	16	7	-	33	21	270			2,646
Fergus	5,571	4,037	651	96	18	181	142	257			10,953
Flathead	12,282	8,058	3,582	454	13	257	109	9	244		25,005
Gallatin	9,381	5,691	14,107	1,549	12	520	86	19			31,377
Garfield	406	391	20			14	5	94			930
Glacier	2,194	1,243	593	131	က	40	37		34		4,275
Golden Valley	387	273	44	4			S				713
Gramite	1,033	713	314	47	1	31	4				2,143
Hill	3,877	2,384	88	22	7	18	41				6,438
Jefferson	666	717	312	41	1	35	00				2,111
Judith Basin	924	655	70	12	1	10	m				1,674
Lake	4,384	2,241	2,969	232	20	52	10	46	42		966'6
Lewis & Clark.	9,860	5,651	1,612	233	18	2,267	245	290	384		20,560
Liberty	738	333	39	1			24				1,135
Lincaln	4.944	3,464	1,262	219	2	53	32		59		10,035
Madison	2,202	1,281	5,340	439	Ø	237	б				9,517
McCone	612	441	13	1	2	7	10				1,086
Meagher	1,263	939	236	31		91	17				2,577
Mineral	1,225	966	974	547	17	137	S	S			3.906
Missoula	15,018	9,170	3,193	512	40	495	94	9.2	186		28,784
Musselshell	1,244	949	137	18	2	33	6	09			2,452

1963 LICENSE SALES BY COUNTIES—(Continued)

COUNTY	Resident Bird & Flsh	Resident Big Game	Limited Fishing	Non-Res. Fishing	AnnoM. Bird	Non-Res. Big Game	è wod wona	Lurkey	Mı. Goat Regular	Special	Totals
Park	4,647	3,174	2,083	224	s	205	46	:			10,384
Petroleum	240	186	10	4		ıs		2			450
Phillips	1,398	1,070	41	ო	7	6	13				2,541
Pondera	2,113	1,308	117	10	7	5	44		16		3,614
Powder River	634	581	8	13	4	33	11	70			1,360
Powell	2,177	1,461	353	48	1	26	17		00		4.121
Prairie	402	319	4		1	S	9	15			752
Ravalli	4,163	2,698	1,623	152	4	314	00	15	58		900'6
Richland	2,186	1,502	77	26	ന	7	99				3,867
Roosevelt	2,166	1,532	43	16	12	13	22				3,804
Rosebud	1,235	096	41	00	9	15	18	142			2,425
Sanders	2,625	2,047	1,190	197	18	105	9	212	7		6,407
Sheridan	1,250	817	п	က	11	က	1				2,096
Silver Bow	11,883	6,022	1,452	219	2	193	94				19,868
Stillwater	2,175	1,179	466	51	1	23	15			:	3,939
Sweet Grass	1,264	893	510	57	2	82	12				2,820
Teton	2,036	1,221	187	25	4	22	16		33		3,544
Toole	1,556	1,090	52	24	7	7	30	1			2,760
Treasure	275	186	11	2	:			4			478
Valley	5,573	3,643	250	49	16	21	97	2			9,651
Wheatland	1,216	847	182	16	ı	42	12				2,315
Wibaux	230	197	ın	15	i	7	က	12			463
Yellowstone	18,948	11,160	1,365	207	34	198	195	210			32,317
Idaho	-	2	92	78	į						173
Utah			1,279	114	:	2					1,395
Washington			107	28		4					139
Wyoming			13	12	o						34
Special Permits											
Non-Resident Deer										10,505	10,505
Mountain Goot										4,200	493
Moose										818	819
Sheep										518	518
TOTALS	195,847	122,291	53,896	7,102	382	7,183	2,270	2,510	1,147	16,535	409,223

MONTANA FISH AND GAME DEPARTMENT STATEMENT OF INCOME

May 1, 1962-April 30, 1963

Hunting and Fishing Licenses: Resident Bird & Fish. Resident Bird Game Non-Resident Limited Fishing. Non-Resident Fishing Non-Resident Bird Non-Resident Bird Non-Resident Bird Shipping Permits Fishing Cert. of Identification. Bow and Arrow. Bird Game Cert. of Identification. Non-Resident Deer Boat Renewal Mountain Goat Boat Applications Turkey Boat. Cert. of Identification. Non-Resident Bear Moose Mountain Sheep Non-Resident Antelope		20020000000000000000000000000000000000	\$ 3.00 3.00 10.00 25.00 100.00 .60 1.00 2.00 1.00 20.00 3.00 5.00 3.00 20.00 20.00 1.00 20.00	\$ 566,694.00 367,977.00 146,142.00 65,370.00 7,075.00 553,700.00 4,464.00 2,259.00 4,386.00 304,560.00 12,954.00 6,790.00 4,776.00 3,146.00 3,146.00 2,140.00 20,990.00 6,840.00 6,840.00 52,155,367.00	
Less Dealers' Fees				58,990.10	\$2,096,376.90
1960 Accounts Paid					28.50 8,580.00
Miscellaneous Sales: General Trapper Beaver Traps Beaver Permit Outfitter Land Owner Trapper Resident Fur Dealer. Fur Dealer Agent. Non-Resident Fur Dealer. Taxidermist Minnow Seining	903 19,274 309 324 117 29 29 4 29 15	88888888	10.00 .50 5.00 10.00 1.00 10.00 10.00 50.00 15.00	9,030.00 9,637.00 1,545.00 3,240.00 117.00 290.00 290.00 405.00 150.00	24,934.00
Miscellaneous Revenue: Fines Sale of Fish and Meats Rents Other Revenue Land Lease—Tiber Land Lease—Canyon Ferry Sale of Fish Eggs Sale of Hides Interest on Bonds Rough Fish—Ft. Peck.				40,827.63 4,503.42 19,156.00 6,812.94 4,841.78 1,158.45 120.00 16.00 3,750.00 1,069.22	82,255.44
					\$2,212,174.84
Pittman-Robertson Income by Federal Reimbursem Dingell-Johnson Income by Federal Reimbursemen					573,283.86 114,146.80
TOTAL INCOME TO DEPARTMENT - MAY 1, 1962	2-APRIL 30	1963			\$2,899,605.50

MONTANA FISH AND GAME DEPARTMENT STATEMENT OF INCOME

May 1, 1963-April 30, 1964

Hunting and Fishing Licenses: Resident Bird & Fish Resident Birg Game Non-Resident Limited Fishing Non-Resident Bird Non-Resident Bird Non-Resident Bird Shipping Permits Fishing Cert. of Identification Bow and Arrow Birg Game Cert. of Identification Non-Resident Deer Turkey Mountain Goat Moose Mountain Sheep Non-Resident Antelope Less Dealers' Fees 1961 Accounts Paid 1962 Accounts Paid			\$ 587,541.00 366,873.00 161,688.00 71,020.00 9,550.00 718,300.00 85.80 4,540.00 210,100.00 5,020.00 8,200.00 20,475.00 7,777.00 85,200.00 \$2,259,855.80 58,287.15	\$2,201,568.65 504.95 13,928.25
Miscellaneous Sales: General Trapper Beaver Tags Beaver Permits Outfitter Lond Owner Trapper. Resident Fur Dealer. Fur Dealer Agent. Non-Resident Fur Dealer. Taxidermist Minnow Seining	1,008 16,898 258 395 163 27 25 4 24 17	 10.00 .50 5.00 10.00 10.00 10.00 50.00 15.00	10,080.00 8,449.00 1,290.00 3,950.00 163.00 270.00 250.00 200.00 360.00 170.00	25,182.00
Miscellaneous Revenue: Fines Sale of Fish and Meats Rents Other Revenue Land Lease—Tiber Land Lease—Canyon Ferry. Sale of Fish Eggs Interest on Bonds Rough Fish—Fort Peck	. 100 (100		4,693.00 14,858.66	73,988.91 \$2,315,172.76
Pittman-Robertson Income by Federal Reimbursen Dingell-Johnson Income by Federal Reimbursemen TOTAL INCOME TO DEPARTMENT—MAY 1, 1963	t —	1.		436,480.36 109,010.25 \$2,860,663.37

DETAIL OF EXPENDITURES

For Fiscal Years Ending April 30, 1963 and April 30, 1964

	April 1963	April 1964
COMMISSIONERS		
Per Diem Operation		\$ 4,617.03 10,192.09
TOTAL	\$ 12,236.61	\$ 14,609.12
ADMINISTRATION		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	37,283.95 2,705.79	\$ 166,925.82 68,336.21 15,880.08 626.00
TOTAL	\$ 152,325.80	\$ 251,768.11
HELENA WAREHOUSE		
Salaries Operation Capital Expenditures Repair and Replacement	971.31 4,984.19 3.19	\$ 478.38 844.98 58.32 39.98
TOTAL	\$ 7,473.77	\$ 1,421.67†
MECHANIC SHOP		
Salaries Operation. Capital Expenditures. Repair and Replacement	545.93 2.66 573.79	\$ 16,242.57 649.86 39.80 310.53
TOTAL	\$ 14,372.93	\$ 17,242.76
STORES AND SUPPLIES		
Expenditures for Merchandise		\$ 54,291.74 42,666.52*
TOTAL	\$ 6,019.86*	\$ 11,625.22
MISCELLANEOUS ACCOUNTS		
Printing Licenses—Maps Refunds Appropriation to State Controller. Appropriction to State Auditor. Canyon Ferry Dam Tiber Dam River Basins	1,300.50 18,223.40 1,630.71	\$ 27,538.15 1,011.35 15,000.00 5,000.00 1,632.83 786.60

^{*}Indicates Credit

[†] Majority of warehouse expenses now chargeable to administration.

	April 1963	April 1964
MISCELLANEOUS ACCOUNTS—(Continued)		
Search and Rescue	166.56 596.79 115.75 1,051.63 189.56* 5,287.50	\$ 23.14 22.53
	Ф 04,330.40	\$ 110,240.02
INFORMATION AND EDUCATION Salaries and Benefits Operation Capital Expenditures. Repair and Replacement	41,200.79	\$ 64,214.80 55,876.43 9,842.19
TOTAL	\$ 100,418.03	\$ 129,933.42
HUNTER AND BOAT SAFETY PROGRAM Salaries and Benefits Operation Capital Expenditures Repair and Replacement.	4,897.91 435.00	\$ 8,814.47 6,125.03 56.45
TOTAL	\$ 12,740.98	\$ 14,995.95
DISTRICT 1 INFORMATION AND EDUCATION PROGRAM		
Salaries and Benefits Operation Capital Expenditures		\$ 3,874.80 1,704.59 549.32
TOTAL		\$ 6,128.71
DISTRICT 2 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits Operation Capital Expenditures. Repair and Replacement	4,461.95 637.45	\$ 10,339.30 3,274.37 484.08
TOTAL	\$ 14,181.31	\$ 14,097.75
DISTRICT 3 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits Operation Capital Expenditures. Repair and Replacement	4,113.70 716.85	\$ 8,525.55 1,996.20 95.41
TOTAL	\$ 11,540.93	\$ 10,617.16
DISTRICT 4 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits Operation Capital Expenditures Repair and Replacement	6,761.51 850.68	\$ 10,870.62 5,595.16 368.01
*Indicates Credit	\$ 17,109.65	\$ 16,833.79
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	April 1963	April 1964
DISTRICT 5 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits. Operation Capital Expenditures Repair and Replacement.	4,065.17 548.01	\$ 10,415.44 4,481.63 330.20
TOTAL	\$ 15,453.93	\$ 15,227.27
DISTRICT 6 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits Operation Capital Expenditures Repair and Replacement.	965.54 1,607.58	\$ 41.98 115.35 456.01
TOTAL	\$ 2,670.14	\$ 613.34
DISTRICT 7 INFORMATION AND EDUCATION PROGRAM Salaries and Benefits Operation		\$ 138.36 587.50
TOTAL	. \$	\$ 725.86
GRAND TOTAL INFORMATION AND EDUCATION	\$ 174,114.97	\$ 209,173.25
GRANTS Predator Control Bounties Predator Control Grant Montana State University Grant Montana State College Grant.	32,777.97	\$ 39,759.57 9,500.00 10,500.00
TOTAL	\$ 43,277.97	\$ 59,759.57
UNIVERSITY RESEARCH UNIT Salaries and Benefits. Operation. Capital Expenditures Repair and Replacement. TOTAL	4,238.95 266.15	\$ 7,802.31 11,028.85 495.62 266.60 \$ 19,593.38
DISTRICT HEADQUARTERS ACCOUNT		
Salaries and Benefits Operation. Capital Expenditures Repair and Replacement	5,644.64* 3,795.29	\$ 790.37 5,340.07° 3,815.81 857.60
TOTAL	\$ 1,160.39°	\$ 123.71
AIRPLANE ACCOUNT Salaries and Benefits Operation Capital Expenditures Repair and Replacement Credit for Airplane Trade-in Credit for Airplane Hire	\$ 613.61 11.001.54 5,288.62 3,785.18 	\$ 280.13 12,626.53 52,312.96 4,172.01 4,370.00° 27,238.40°
TOTAL	\$ 744.35	\$ 37,783.23
*Indicates Credit		

	April 1963	April 1964
VEHICLE ACCOUNT		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement Credit for Vehicle Trade-Ins Credit for Vehicle Mileage	3,166.26 106,668.60 117,297.68 38,856.16* 218,113.63*	\$ 125.16 2,691.88 140,327.33 109,282.77 29,362.50* 217,889.55*
TOTAL	\$ 29,771.45*	\$ 5,175.09
OVERSNOW VEHICLE ACCOUNT		0 101 47.*
Operation	123.55 61.50	\$ 131.47* 47.50
TOTAL	. \$ 145.81	\$ 83.97*
HELICOPTER ACCOUNT		
Salaries and Benefits		\$ 41.69 12,245.60 14.81 2,092.83 18,731.25*
TOTAL	. \$ 4,357.51	\$ 4,336.32*
ENFORCEMENT—District No. 1		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	20,892.86 885.27	\$ 54,433.98 22,333.93 580.79
TOTAL		\$ 77,348.70
ENFORCEMENT—District No. 2		
Salaries and Benefits. Operation Capital Expenditures Repair and Replacement	23,730.16	\$ 57,344.55 23,121.18 425.91
TOTAL	\$ 80,345.74	\$ 80,891.64
ENFORCEMENT—District No. 3		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	38,750.51 3,754.06 2,010.89	\$ 71,299.80 31,580.72 1,810.96 71.40
TOTAL	\$ 110,101.52	\$ 104,762.88
ENFORCEMENT—District No. 4 Salaries and Benefits Operation Capital Expenditures. Repair and Replacement TOTAL	30,542.36	\$ 75,888.38 32,330.33 390.45 2.25 \$ 108.611.41
*Indicates Credit	Ψ 100,400.00	Ф 100,011.41
indicates Credit		

	April 1963	April 1964
ENFORCEMENT—District No. 5		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	. 24,332.78	\$ 60,290.98 21,720.61 252.67
TOTAL	\$ 85,604.26	\$ 82,264.26
ENFORCEMENT—District No. 6		
Salaries and Benefits	\$ 40,938.15 19,056.22 949.00	\$ 45,727.65 22,099.59 1,763.49
TOTAL	\$ 60,943.37	\$ 69,590.73
ENFORCEMENT—District No. 7		
Salaries and Benefits	19,673.32	\$ 45,219.56 22,367.33 1,115.22
TOTAL	\$ 61,526.57	\$ 68,702.11
ENFORCEMENT—General		
Salaries and Benefits	\$ 22,657.62	\$ 34.997.50
Operation	18,481.03	26,402.87 650.32 1,370.45
TOTAL	\$ 43,473.29	\$ 63,421.14
TOTAL ENFORCEMENT	\$ 615,400.60	\$ 655,592.87
FISHERIES DIVISION:		
FISH HATCHERIES		
ANACONDA		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	23,594.72 319.01	\$ 25,367.22 21,527.61 27.57* 62.72
TOTAL	\$ 49,232.59	\$ 46,929.98
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Salaries and Benefits. Operation Capital Expenditures Repair and Replacement	9,504.53 640.20	\$ 22,162.26 10,054.66 40,911.39 232.23
TOTAL	\$ 30,405.96	\$ 73,360.54
*Indicates Credit		

	April 1963	April 1964
BLUEWATER		
Salaries and Benefits Operation Capital Expenditures Repair and Replacement	20,874.14	\$ 24,043.48 23,437.24 208.35 .52
TOTAL	\$ 45,239.11	\$ 47,689.59
BIG TIMBER Salaries and Benefits Operation Capital Expenditures Repair and Replacement TOTAL	39.20	\$ 13,247.43 2,632.50 103.19 161.10 \$ 16.144.22
TOTAL	10,000.00	
EMIGRANT Salaries and Benefits Operation Capital Expenditures	\$ 12,292.59 6,725.68 247.82	\$ 12,687.48 6,387.78 48.74
TOTAL	\$ 19,266.09	\$ 19,124.00
GREAT FALLS Salaries and Benefits Operation.		\$ 19,552.60 13,721.97
Capital Expenditures Repair and Replacement		3,844.94 903.80
TOTAL	\$ 42,682.26	\$ 38,023.31
HAMILTON		
Operation	. \$ 427.80	\$
TOTAL	. \$ 427.80	\$
LEWISTOWN		
Salaries Operation. Capital Expenditures Repair and Replacement.	36,838.07 39,452.20	\$ 36,947.28 42,506.81 710.79 3.96
TOTAL	\$ 112,607.15	\$ 80,168.84
LIBBY		
Salaries Operation. Capital Expenditures Repair and Replacement	. 6,158.23 . 623.68	\$ 14,685.91 6,354.06 625.78 519.83
TOTAL.	\$ 19,821.75	\$ 22,185,58

^{*}Indicates Credit

April 1963

April 1964

	April 1963	April 1964
McNEIL Salaries	\$ 484.13	\$ 14.41
Salaries Operation	123.96	
TOTAL		\$ 14.41
POLSON		\$ 37.82
Salaries Operation	528.49	325.77*
TOTAL	\$ 726.83	\$ 287.95*
SOMERS		0.4.000.5.4
Salaries Operation Capital Expenditures Repair and Replacement.	2,205.78	\$ 24,077.54 6,362.76 265.39 17.40
	\$ 33,960.49	\$ 30,723.09
FISHERIES GENERAL (Includes fish distribution, hatchery biolo Supt. of Hatcheries and Supt. of Fisheries.)		
Salaries Operation Capital Expenditures. Repair and Replacement	5,672.65	\$ 29,640.05 18,856.45 7,728.73
TOTAL	\$ 48,912.81	\$ 56,225.23
SPAWNING STATIONS	0.450.07	\$ 3.247.62
Salaries Operation Capital Expenditures	2,047.02	4,096.62 378.35
TOTAL	\$ 5,513.24	\$ 7,722.59
FISHERIES MANAGEMENT PROJECTS		
MISCELLANEOUS FIELD PROJECTS Salaries Operation. Capital Expenditures. Repoir and Replacement	9,263.82	\$ 102,750.97 74,212.13 53,685.38 1,064.88
TOTAL		\$ 231,713.36
DINGELL-JOHNSON PROJECTS		
Salaries Operation Capital Expenditures	33,619.83 12,057.84 116.84	\$ 99,717.09 39,142.16 30,871.06 948.81
TOTAL.	\$ 147,629.41	\$ 170,679.12
TOTAL FISHERIES DIVISION.	\$ 743,169.96	\$ 840,415.91

	April 1963	April 1964
GAME FARM DIVISION		
FORT PECK		
SalariesOperation		\$ 248.95 1,458.22
Capital Expenditures	. 58.27	
Repair and Replacement		3.28
TOTAL	\$ 7,708.98	\$ 1,710.45
WARM SPRINGS	# 10,500,00	\$ 15,191.20
Salaries Operation	11,065.99	8,869.66
Capital Expenditures		356.48 26.50
Repair and Replacement		\$ 24.443.84
TOTAL	\$ 28,800.01	\$ Z4,443.04
MOIESE		
Operation	\$ 406.83	\$ 122.90
TOTAL	\$ 406.83	\$ 122.90
TOTAL GAME FARM DIVISION	\$ 36,981.82	\$ 26,277.19
GAME MANAGEMENT		
Salaries		\$ 34,812.82
Operation		55,402.91 3,237.37
Repair and Replacement		
TOTAL	\$ 52,562.32	\$ 93,453.10
GAME MANAGEMENT—P. R. PROJECTS		
Salaries		\$ 369,492.71
Operation		197,562.53 33,531.28
Repair and Replacement	1,169.41	4,299.72
TOTAL	\$ 617,061.80	\$ 604,886.24
TOTAL SALARIES	\$1,422,938.96	\$1,607,666.02
TOTAL OPERATIONS	. 615,896.54	753,610.96
TOTAL CAPITAL EXPENDITURES	279,562.58	375,028.36
TOTAL REPAIR AND REPLACEMENT	138,394.28	138,864.04
TOTAL APPROPRIATIONS	61,501.37	79,759.57
GRAND TOTAL OF EXPENDITURES	\$2,518,293.73	\$2,954,928.95





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